



Disclosure to Promote the Right To Information

Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

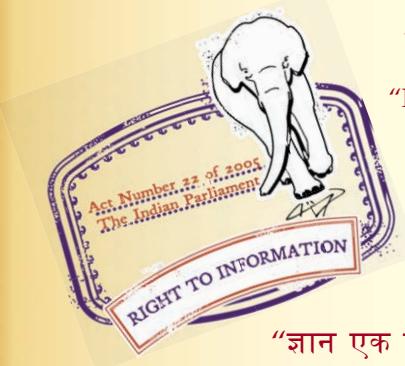
“Step Out From the Old to the New”

IS 7773 (1975): Holding dimensions for broaching tools [PGD
32: Cutting tools]

“ज्ञान से एक नये भारत का निर्माण”

Satyanaaranay Gangaram Pitroda

Invent a New India Using Knowledge



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartṛhari—Nītiśatakam

“Knowledge is such a treasure which cannot be stolen”



BLANK PAGE



PROTECTED BY COPYRIGHT

Indian Standard
**HOLDING DIMENSIONS FOR
BROACHING TOOLS**

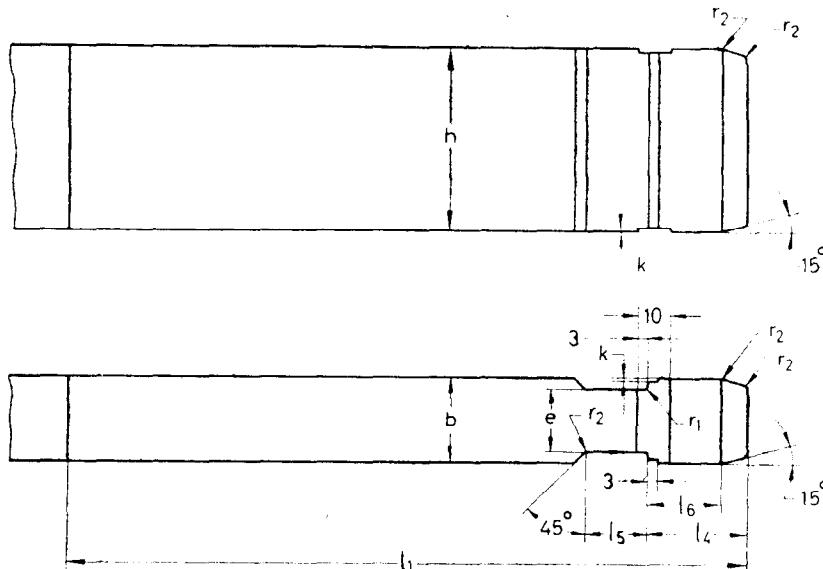
1. Scope — Covers the dimensions for pulling end and retrieving end of broaching tools.

2. Dimensions

2.1 Rectangular Pulling End

2.1.1 Dimensions of keyway broaches suitable for keyways according to IS : 2710-1975 'Parallel keys and keyways for machine tools (*first revision*)' shall be as given in Table 1.

**TABLE 1 DIMENSIONS OF KEYWAY BROACHES WITH RECTANGULAR PULLING ENDS
(KEYWAYS ACCORDING TO IS : 2710-1975)**



All dimensions in millimetres.

Width of Keyway <i>b</i> c11	Shank Height <i>h</i> c11	Bore Dia		<i>e</i> c11	<i>k</i>	<i>I</i> ₁	<i>I</i> ₄	<i>I</i> ₅	<i>I</i> ₆	<i>r</i> ₁	<i>r</i> ₂
		From	To								
4	8	10	12	2.5	0.1	180	20	16	17	0.2	0.6
	9	12	14								
5	11	14	17	3.3	0.1	180	20	16	17	0.2	0.6
	13	17	19								
6	15	19	22	4.2	0.1	180	20	16	15	0.2	0.6
	17	22	25								
8	20	25	30	5.6	0.1	180	20	16	15	0.2	0.6
	24	30	35								
10	28	35	38	7.2	0.1	210	25	16	20	0.2	1
	30	38	44								
12	34	44	50	9	0.1	210	25	16	17	0.2	1
	38	50	58								
14	44	58	65	11.5	0.15	210	25	16	17	0.3	1
	45	58	65								
16	45	65	75	15	0.15	210	25	16	17	0.3	1
	50	75	85								
20	45	65	75	16.5	0.15	210	25	16	17	0.3	1
	55	85	95								
22	60	95	110	19	0.15	210	25	16	17	0.3	1
	60	110	130								
25	60	130	150	21	0.2	220	32	20	24	0.4	1.6
	60	150	27								
32	60	110	130	24	0.2	220	32	20	24	0.4	1.6
	60	130	150								
36	60	130	150	27	0.2	220	32	20	24	0.4	1.6
	60	150	170								
40	60	150	170	30	0.25	230	40	25	32	0.5	2.5

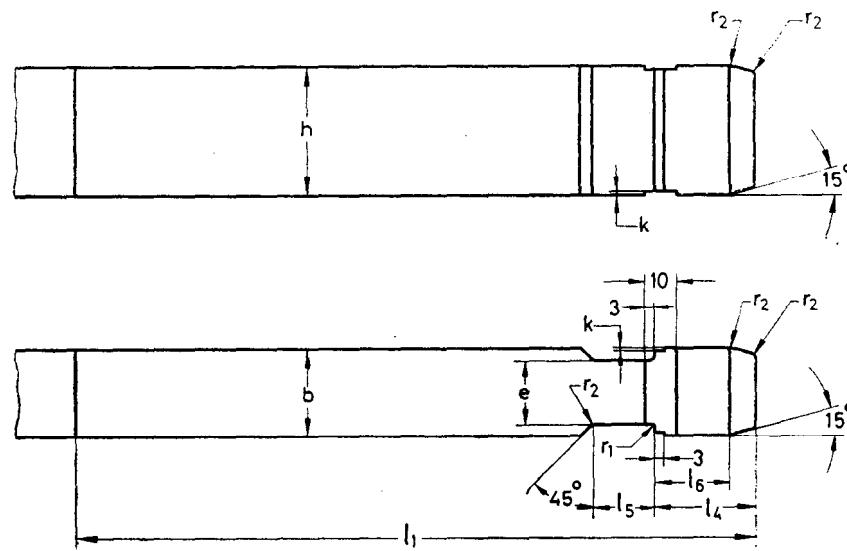
Adopted 28 August 1975

© December 1975, BIS

Gr 3

2.1.2 Dimensions of keyway broaches suitable for keyways according to IS : 2048-1975 'Parallel keys and keyways (first revision)' shall be as given in Table 2.

**TABLE 2 DIMENSIONS OF KEYWAY BROACHES WITH RECTANGULAR PULLING ENDS
(KEYWAYS ACCORDING TO IS : 2048-1975)**



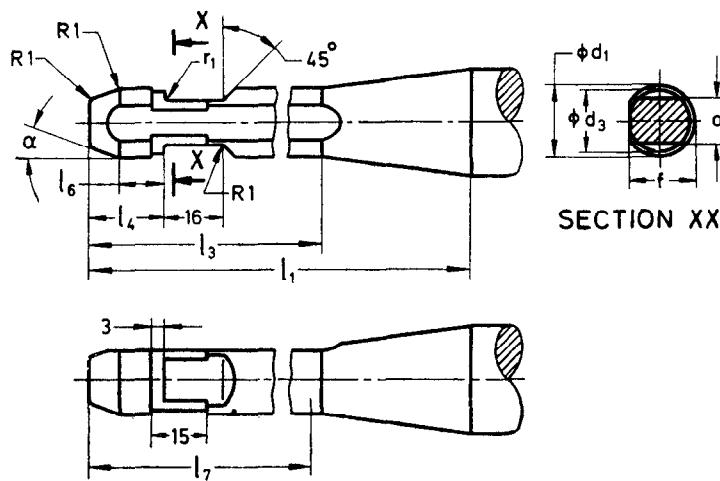
All dimensions in millimetres.

Width of Keyway <i>b</i> c11	Shank Height <i>h</i> c11	Bore Dia		<i>e</i> c11	<i>k</i>	<i>l</i> ₁	<i>l</i> ₄	<i>l</i> ₅	<i>l</i> ₆	<i>r</i> ₁	<i>r</i> ₂
		From	To								
2	3.75	6	8	1.4	—	180	20	16	17	—	0.6
3	5.5	8	10	2.5	0.1	180	20	16	17	0.2	0.6
4	7	10	12	2.5	0.1	180	20	16	17	0.2	0.6
5	8.5	12	14	3.3	0.1	180	20	16	17	0.2	0.6
	—	14	17								
6	12	17	19	4.2	0.1	180	20	16	15	0.2	0.6
	—	19	22								
8	16	22	25	5.6	0.1	180	20	16	15	0.2	0.6
	—	25	30								
10	20	30	35	7.2	0.1	210	25	16	20	0.2	1
	—	35	38								
12	24	38	44	9	0.1	210	25	16	17	0.2	1
14	28	44	50	10	0.15	210	25	16	17	0.3	1
16	32	50	58	11.5	0.15	210	25	16	17	0.3	1
18	34	58	65	13	0.15	210	25	16	17	0.3	1
20	36	65	75	15	0.15	210	25	16	17	0.3	1
22	38	75	85	16.5	0.15	210	25	16	17	0.3	1
25	40	85	95	19	0.15	210	25	16	17	0.3	1
28	42	95	110	21	0.2	220	32	20	24	0.4	1.6
32	45	110	130	24	0.2	220	32	20	24	0.4	1.6
36	45	130	150	27	0.2	220	32	20	24	0.4	1.6
40	48	150	170	30	0.25	230	40	25	32	0.5	2.5

2.2 Round Pulling End

2.2.1 Dimensions for round pulling ends from 4 to 18 mm dia shall be as given in Table 3A.

**TABLE 3A DIMENSIONS FOR ROUND PULLING ENDS
(FROM 4 TO 18 mm DIA)**



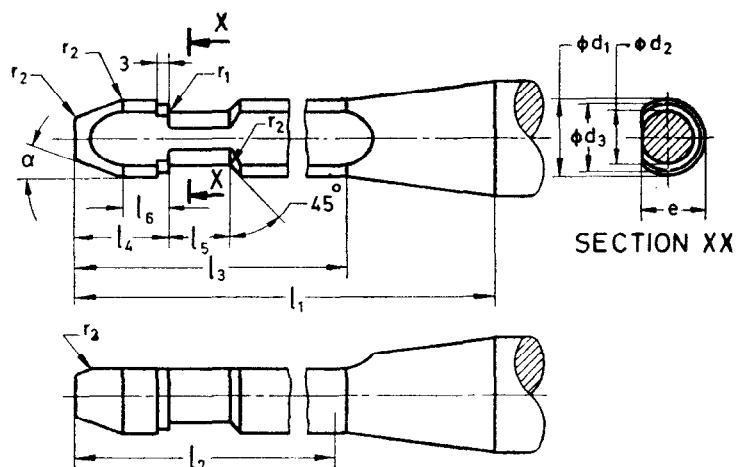
TYPE A PULLING END

All dimensions in millimetres.

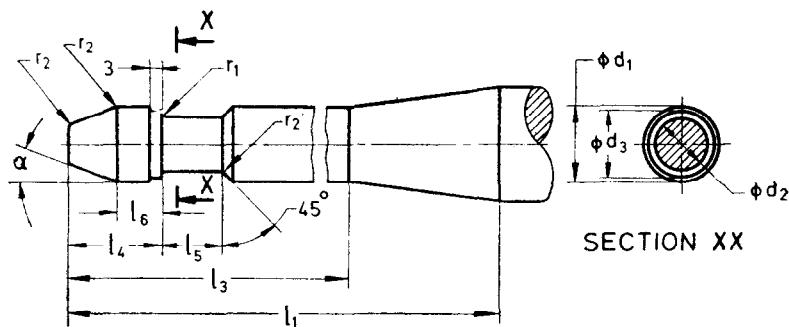
d_1 d ₈	a c ₁₁	d_3	f d ₈	l_1	l_3	l_4	l_6	l_7	r_1	α
4	2.3	3.8	3.7	160	120	16	—	90	0.2	—
4.5	2.6	4.3	4.2	160	120	16	—	90	0.2	—
5	3	4.8	4.6	160	120	16	—	90	0.2	—
5.5	3.3	5.3	5.1	160	120	16	—	90	0.2	—
6	3.6	5.8	5.6	160	120	16	—	90	0.2	—
7	4.2	6.8	6.5	160	120	16	—	90	0.2	—
8	4.8	7.8	7.5	160	120	16	—	90	0.2	—
9	5.4	8.8	8.5	160	120	16	—	90	0.2	—
10	6	9.8	9.5	180	140	20	12	120	0.2	10°
11	6.6	10.8	10.5	180	140	20	12	120	0.2	10°
12	7.2	11.8	11.5	180	140	20	12	120	0.2	10°
14	8.5	13.7	13.5	180	140	20	12	120	0.3	20°
16	10	15.7	15.5	180	140	20	12	120	0.3	20°
18	11.5	17.7	17.5	180	140	20	12	120	0.3	20°

2.2.2 Dimensions for round pulling ends from 20 to 100 mm dia shall be as given in Table 3B.

TABLE 3B DIMENSIONS FOR ROUND PULLING ENDS
(FROM 20 TO 100 mm DIA)



TYPE A PULLING END



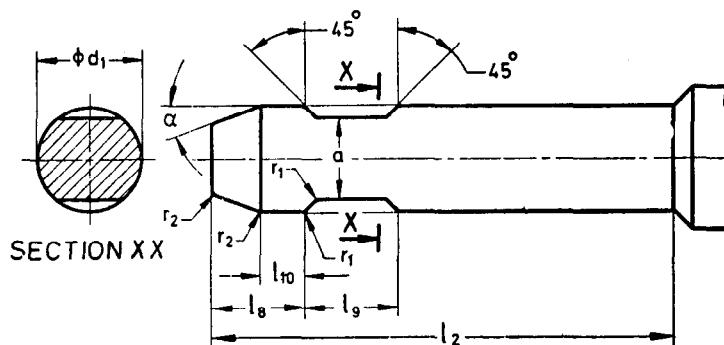
TYPE B PULLING END, WITHOUT PROVISION AGAINST TURNING IN HOLDER

All dimensions in millimetres.

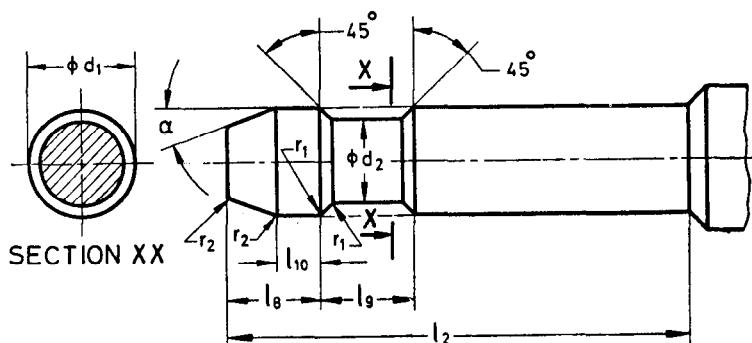
d_1 d_8	d_2 c_{11}	d_3	e e_8	l_1	l_3	l_4	l_5	l_6	l_7	r_1	r_2	α
20	15	19.7	17	210	170	25	16	12	160	0.3	1	20°
22	16.5	21.7	18.75	210	170	25	16	12	160	0.3	1	20°
25	19	24.7	21.5	210	170	25	16	12	160	0.3	1	20°
28	21	27.6	24	220	180	32	20	16	170	0.4	1.6	20°
32	24	31.6	27.5	220	180	32	20	16	170	0.4	1.6	20°
36	27	35.6	31	220	180	32	20	16	170	0.4	1.6	30°
40	30	39.5	34.5	230	190	40	25	20	180	0.5	2.5	30°
45	34	44.5	39	230	190	40	25	20	180	0.5	2.5	30°
50	38	49.5	43.5	230	190	40	25	20	180	0.5	2.5	30°
56	42	55.4	48.5	270	230	50	32	25	220	0.6	4	30°
63	48	62.4	55	270	230	50	32	25	220	0.6	4	30°
70	53	69.4	61	270	230	50	32	25	220	0.6	4	30°
80	60	79.2	69.5	315	275	63	40	32	265	0.8	6	30°
90	68	89.2	78.5	315	275	63	40	32	265	0.8	6	30°
100	75	99.2	87	315	275	63	40	32	265	0.8	6	30°

2.3 Round Retrieving End — Dimensions for round retrieving ends shall be as given in Table 4.

TABLE 4 DIMENSIONS FOR ROUND RETRIEVING ENDS



TYPE C RETRIEVING END WITH PROVISION AGAINST TURNING IN LIFTING HEAD



TYPE D RETRIEVING END WITHOUT PROVISION AGAINST TURNING IN LIFTING HEAD

All dimensions in millimetres.

d_1 d8	$d_2 = a$ c11	l_2	l_8	l_9	l_{10}	r_1	r_2	α
12	9	70	16	16	8	0.3	1	10°
14	10	70	16	16	8	0.3	1	20°
16	12	70	16	16	8	0.3	1	20°
18	14	70	16	16	8	0.3	1	20°
20	15	90	20	20	10	0.3	1	20°
22	17	90	20	20	10	0.3	1	20°
25	20	90	20	20	10	0.3	1	20°
28	22	125	25	25	12	0.4	1.6	20°
32	26	125	25	25	12	0.4	1.6	20°
36	30	125	25	25	12	0.4	1.6	30°
40	34	125	25	25	12	0.5	2.5	30°
50	42	125	25	25	12	0.5	2.5	30°
63	53	160	28	28	16	0.6	4	30°
80	68	200	32	40	20	0.8	6	30°
100	86	200	32	40	20	0.8	6	30°

EXPLANATORY NOTE

In the preparation of this standard assistance has been derived from the following publications:

- DIN 1415 (Sheet 3) - 1970 Räumwerkzeuge Runde Schäfte A and B (Broaching tools, round shanks A and B), issued by Deutscher Normenausschuss.
- DIN 1415 (Sheet 4) - 1970 Räumwerkzeuge Runde Endstücke C and D (Broaching tools, round end pieces C and D), issued by Deutscher Normenausschuss.